

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s): Backes	
Application No.: 10/781284	Group Art Unit: 2665
Filed: 02/18/2004	
Title: Apparatus for Selecting an Optimum Access Point in a Wireless Network on a Common Channel	Examiner: Philpott
Attorney Docket No.: 160-032	

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Commissioner for Patents  
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**APPELLANT'S BRIEF PURSUANT TO 37 C.F.R. § 1.192**

This Appellant's brief is submitted in accordance with the Notice of Appeal filed with this brief.

**I. Real Party in Interest**

The real party in interest is AutoCell Laboratories, Inc.

**II. Related Appeals and Interferences**

Appellants are not aware of any appeals or interferences that are related to the present case.

**III. Status of the Claims**

Claims 1-10 are pending in this application. Claims 6-10 were withdrawn from consideration, and claims 1-5 were rejected in the Final Office Action dated October 18, 2006. No claims have been allowed. The rejection of independent claim 1 is the subject of this appeal. The current state of the claims is shown in Appendix A.

**IV. Status of Amendments**

An amendment was filed August 2, 2006, in which claims 1 through 4 were amended. That Amendment was entered by the Examiner and considered in the preparation of the Final Office Action dated October 18, 2006. An after final amendment is submitted contemporaneously with this brief to correct an informality in claim 3 and to submit a terminal disclaimer. Applicant assumes that the Examiner will enter that after final amendment in order to place the application in proper form for appeal.

V. **Summary of Claimed Subject Matter**

The subject matter of claim 1 is an apparatus for controlling how a wireless device such as a station (“STA”) selects an access point (“AP”) with which to attempt to become associated. The terms “station” and “access point” are well known in the networking art. A station is a mobile wireless terminal device such as a PDA, cell phone or notebook computer. Access points are fixed location devices which provide network access to stations. In particular, a station obtains network access through a first access point with which it is associated, and may migrate to a second access point by dis-associating with the first access point and associating with the second access point. The apparatus in claim 1 includes logic for associating the wireless device with a current access point, ascertaining whether to attempt to associate with an alternative access point based at least in part on a level of attenuation of signal strength of transmissions from the alternative access point where the alternative access point transmits at less than full power, and requesting association with the alternative access point if it is ascertained that the wireless device should attempt to associate with said alternative access point.

The claimed apparatus is described in the Specification at pp. 43-59 in section “3 STA Initialization” and section “4 STA Optimization,” including other sections referenced in section 3. Support for the limitation “logic for associating the wireless device with a current access point on a first channel” is at page 43 in the text describing Figure 23, and also in section 4. Support for the limitation “logic for ascertaining whether the wireless device should attempt to associate

with an alternative access point, the ascertaining based at least in-part on a level of attenuation of signal strength of transmissions from the alternative access point where the alternative access point transmits at less than full power” is in the descriptions of “canvassing” and “bidding” on page 44, and at pages 48-52 where calculation of distance (in Banzais) and calculation of data rate as a function of received power level and TP Backoff are described. Note that use of TP Backoff to calculate distance in Banzais is described on page 49, and use of the distance in Banzais to ascertain whether to attempt to become associated with the alternative AP as described at the top of page 51. Support for the limitation “logic for requesting association with the alternative access point if it is ascertained that the wireless device should attempt to associate with said alternative access point” is on page 44 in the description of “bidding.”

**VI. Grounds of Rejection to be Reviewed on Appeal**

Claim 1 was rejected under 35 U.S.C. 103(a) over U.S. Patent Application Publication No. US 2003/0036374 (“English”), in view of U.S. Patent No. 6,693,915 (“Lappetelainen”), in view of U.S. Patent No. 6,850,499 (Wheatley III”).

**VII. Argument**

**A. The combination of English and Lappetelainen and Wheatley III fails to teach using level of attenuation of signal strength of transmissions to evaluate whether an alternative AP is better than the current AP as recited in claim 1.**

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

The Examiner concedes that English and Lappetelainen fail to teach using level of attenuation of signal strength of transmissions to evaluate whether an alternative AP is better than the current AP as recited in claim 1.<sup>1</sup> However, the Examiner asserts that the limitation is taught by Wheatley III at col. 11, line 50 through col. 14, line 28, and specifically quotes “the excess C/I [signal to noise and interference ratio] measurement is used to reduce transmit power on the traffic channel commensurate with the excess C/I measurement.” Wheatley III does teach power attenuation as quoted by the Examiner. However, the claimed limitation is not attenuating power of an access point, but rather ascertaining whether to attempt to become associated with an access point based on its level of power attenuation.

Wheatley fails to teach considering power attenuation, or any other basis, for ascertaining whether to become associated with an alternative access point.

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<sup>1</sup> Final OA, Oct. 18, 2006 at page 4.

What Wheatley teaches is that a station can instruct an access point with which it is already associated to reduce power when the power is so high that it causes problems.<sup>2</sup> In contrast, the claimed invention considers the ability of an alternative access point to increase power to provide better service. Therefore, claim 1 distinguishes the cited combination by reciting “logic for ascertaining whether the wireless device should attempt to associate with an alternative access point, the ascertaining based at least in-part on a level of attenuation of signal strength of transmissions from the alternative access point where the alternative access point transmits at less than full power.”

It should be noted that the claimed invention provides a practical advantage over apparatus taught by the cited combination. Reducing power allows access points to mitigate interference, but also causes the access points to appear to have a smaller range. Taking into account the attenuation of transmissions by the access point allows decisions to be made based on actual range. In other words, it provides the wireless device with the capability to recognize and select an access point which will only provide a better data rate after that access point has increased transmit power. Without that ability, the better alternative access point would be overlooked or judged to not be better than the current access point because its signal would appear relatively weak.

If an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is non-obvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Accordingly, claims 2-5 also distinguish the cited combination.

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<sup>2</sup> Column 11, lines 55-58.

**VIII. Conclusion**

Appellants submit that the rejections of the present claims under 35 U.S.C. 103 are improper for at least the reasons set forth above. Appellants accordingly request that the rejections be withdrawn and the case put forward for allowance.

Respectfully submitted,

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*Appendix A - Claims*

1. (previously presented) Apparatus included in a wireless device in a wireless communications environment including multiple access points and stations, wherein stations gain network access by associating with one of the access points, comprising:

logic for associating the wireless device with a current access point operating on a first channel;

logic for ascertaining whether the wireless device should attempt to associate with an alternative access point, the ascertaining based at least in-part on a level of attenuation of signal strength of transmissions from the alternative access point where the alternative access point transmits at less than full power; and

logic for requesting association with the alternative access point if it is ascertained that the wireless device should attempt to associate with said alternative access point.

2. (previously presented) The apparatus of claim 1 further comprising:

logic for automatically collecting information about the alternative access point, including an indication of the level of attenuation.

3. (currently amended) The apparatus of claim 2 wherein the logic for ascertaining ascertains that the wireless device should attempt to associate with the alternative access point if the alternative access point is closer than the current access point in terms of a biased distance which accounts for access point ~~AP~~ loading.



4. (previously presented) The apparatus of claim 3 wherein the logic for ascertaining ascertains that the alternative access point is closer than the current access point by:

calculating a first biased distance between the wireless device and the current access point based on “x” samples, where “x” is a real number;

calculating a second biased distance between the wireless device and the alternative access point based on “y” samples where “y” is less than “x,” where “y” is a real number; and

ascertaining that the alternative access point is closer than the current access point if the second biased distance is less than the first biased distance.

5. (previously presented) The apparatus of claim 3 wherein the logic for requesting association requests association by sending a message to the alternative access point.

6. (withdrawn) Apparatus included in a wireless station in a wireless communications environment, the method comprising the steps of:

logic operable to associate the station with a first access point on a first channel;

logic operable to determine whether a second access point would provide a greater data rate than the first access point, where the respective data rates providable by the first and second access points are non-zero; and

logic operable to request association with the second access point if it is determined that the second access point would provide a greater data rate than the first access point.

7. (withdrawn) The apparatus of claim 6 wherein the second access point operates on the first channel.

8. (withdrawn) The apparatus of claim 6 wherein the second access point operates on a second channel.

9. (withdrawn) The apparatus of claim 6 wherein the logic operable to determine whether the second access point would provide a greater data rate than the first access point employs, at least in-part, signal strength of transmissions from the first and second access points.

10. (withdrawn) The apparatus of claim 6 wherein the logic operable to determine whether the second access point would provide a greater data rate than the first access point employs, at least in-part, an indication of loading advertised by the first and second access points.

***Appendix B - Evidence Submitted***

None.

*Appendix C - Related Proceedings*

None.